E.I.S SCOPING INFORMATION

PROJECT LOCATION

SR 90 is a major east-west corridor, linking the Seattle/Puget Sound area with eastern Washington and the rest of the country. The proposed project is located on the east side of Snoqualmie Pass in Kittitas County, beginning at mile post (MP) 55.1 Hyak and ending at mile post (MP) 67.5 the top of Easton Hill (See vicinity map appendix A).

SNOQUALMIE PASS HISTORY

The earliest transportation routes across the mountains were a combination of foot trails and canoe passages that led from Elliott Bay and the Nisqually Prairie to the summit of the Cascade Mountains. As Euro-American explorers of the Cascades no doubt discovered, through Native American informants, the mountains could be traversed, and the route across Snoqualmie Pass might prove the easiest.

When western Washington was under threat of Indian attacks in 1856, Major J. H. H. Van Bokkelen of the Washington Territorial Volunteers observed an Indian trail at the summit that ran into Keechelus Lake and surmised that the Indians either used canoes to cross the lake or walked around its shores in periods of low water.

In 1865, the first wagon train, consisting of six wagons, made it over the pass traveling from east to west. This was during the construction of a wagon road from Ranger's Prairie (North Bend) to Lake Keechelus. The road had been funded by Seattleites desirous of bringing goods and people to their region.

The Chicago, Milwaukee, St. Paul and Pacific Railroad completed its line over the Cascades via Snoqualmie Pass in 1909. During this time the U.S. Reclamation Service began replacing an earlier crib dam at the south end of Keechelus Lake with a new earth-filled dam this became part of the Yakima Project which was constructed to irrigate the Yakima Valley.

The first motorized traffic across Snoqualmie Pass came in 1905. In 1912, regular ferry service was established, making the water route across Keechelus Lake part of the trip. It was only in the first decade of the twentieth century that a road suitable for automobiles was established across Snoqualmie Pass, with the winter of 1931 - 1932 marking the first time the road was open year round.

The Washington State Highway Department started improvements that led to paving of the Sunset Highway (US 10) with the completed highway dedicated in 1934. Since that time, numerous improvements have been made to the highway, including realignment of several sections, and the construction of additional lanes and snowsheds.

Through a series of projects beginning in the 50's, this section of SR 90 was developed to a four lane highway. In the 70's, a series of projects upgraded the facility to interstate standards and SR 90 became part of the United States Interstate Highway System.

In the early 80's, pavement cracking and panel settlement of the sections that were built in the late 50's became apparent and projects were designed to grind and retrofit the roadway. The worst areas were overlaid with Asphalt Concrete Pavement (ACP) in an attempt to extend the life of the roadway by another five to ten years.

Today, where once Native Americans, military parties, wagon trains, and cattle drives struggled across the pass, there exists one of the most heavily traveled mountain highways in the United States that is badly in need of repair in order to preserve the life of this route.

PROJECT PURPOSE AND NEED

STATEMENT OF PURPOSE

The purpose of this project is to reconstruct the roadway, improve operational efficiency, increase capacity, and improve safety on SR 90 between Hyak (MP 55.1) and the top of Easton Hill (MP 67.5).

STATEMENT OF NEEDS

The portion of SR 90 to be considered is deficient in the following areas:

- **Deteriorated Pavement**
- **Operational Inefficiency**
- **Congestion**
- **Safety**

Correcting these problems will result in improved efficiency and capacity, reduced maintenance costs, and reduced road closures. WSDOT will also strive to minimize environmental impacts, maintain and restore aesthetics, and address the concerns of the public.

Deteriorated Pavement

Construction of the existing roadway and Portland Cement Concrete Pavement (PCCP) began in the late 50's. The estimated life of the PCCP was 20 years. The existing PCC pavement is cracked and deteriorated for the entire length of the project. Initially the roadway was retrofitted with dowel bars and ground smooth, with the worst areas overlaid with ACP. All of the existing PCCP in the project limits is beyond it's design life and failure of the pavement and underlying sub-structure has already begun. The existing roadway has served it's purpose and now the time has come to replace it.

Operational Inefficiency

Road closures from avalanches not only affect local traffic movements, business interests, and recreation areas; but also the economy of the entire state. Frequent avalanches at the East Snowshed and slide curve areas cause road closures throughout the winter. Closures from heavy snowfall and avalanches has been a common problem throughout the history of this route over Snoqualmie Pass. The current snowshed only covers the westbound lanes, which necessitates closures and traffic delays while maintenance crews detonate the explosives to release avalanches and clean up the avalanche debris.

Avalanche closures range from part of an hour up to several days, with an average yearly closure of three days. For every 24 hours that the pass is closed, it has been estimated that it costs the Washington State economy 16 million dollars. With the ever increasing traffic volume and the importance of highway commerce to the economy of the state, the people of the State of Washington are demanding to keep the highway open under all weather conditions.

The existing snowshed is substandard in height and requires the eastbound lanes to be closed in the vicinity of the snowshed to route westbound trucks with oversized loads around the snowshed.

Currently there is not enough storage for snow and highway runoff in the project limits. The lack of storage results in additional plowing operations, reduction in roadway width and standing water on the roadway.

The operational inefficiencies need to be addressed in order to eliminate road closures from avalanches, snow removal, oversized loads, and maintenance activities. The reduction in road closures translates into reduced maintenance costs and in improved traffic movements that do not hamper highway commerce.

Congestion

Level of Service (LOS) is defined as a qualitative measure describing the operational conditions within a traffic stream; generally described in terms of such factors as speed, travel time, freedom to maneuver, comfort and convenience, and safety. LOS conditions range from LOS A or "ideal" to LOS F "breakdown". SR 90 operates in a range of LOS from C to E. A description of the different level of services are described below:

LOS C	Speeds remain near free flow speed, but freedom to maneuver is noticeably restricted.
LOS D	Speed begins to decline with increasing volume. Freedom to maneuver is further reduced and traffic stream has little space to absorb disruptions.
LOS E	Unstable flow, with volume at or near capacity. Freedom to maneuver is extremely reduced and traffic stream has little space to absorb disruptions.

Current Average Daily Traffic counts are about 25,000 vehicles per day, with approximately 24% of the volumes being truck traffic. The existing four lane facility normally operates at a Level of Service C, however it is common for it to operate at a Level of Service D during peak hours. Summer weekend volumes are approaching 50,000 vehicles per day. If the highway stays a four lane facility, it is predicted to operate under normal conditions at a LOS E by 2008. If capacity improvements are not made to the route, the once free flowing system will convert into a storage facility for vehicles, hampering the movement of people and goods across the pass.

Safety

Alignment

Most of the horizontal and vertical alignment does not meet current design standards of 70 MPH. The Stampede Pass and Cabin Creek Interchange have substandard acceleration and deceleration lanes and tapers. The turning radii and sight distances at the intersections of the ramps and cross roads are also substandard.

Within the project limits, there are six Risk Locations listed in the WSDOT Accident Prevention Program. A Risk Location is a location that has a high probability of run-off-the-road accidents based on existing geometrics. The combined length of the Risk locations within the project limits is 2.56 miles. The roadway and interchanges need to be reconstructed to WSDOT and FHWA design standards to reduce the chance of an accident within the project limits.

Unstable Slopes

Accidents due to incidences of rock outfall and rockslides happen without warning. Occasionally, the spontaneous release of rock debris has been catastrophic, causing closures and the loss of property and life. The Geotechnical Services Branch of WSDOT has identified 13 areas within the project limits that have unstable slopes where rock outfall and rockslides occur. During recent construction projects, three of these areas have been stabilized by rock bolting and doweling. The remaining locations need to be addressed as part of this project.

Structures

The Stampede Pass and Cabin Creek Interchanges have inadequate vertical clearances. This results in the bridges being hit numerous times, causing damage to structures and vehicles. To avoid hitting the bridges, trucks with oversized loads are required to exit the highway at the off ramps and then re-enter the highway at the on ramps. The structures at both interchanges need to be replaced to eliminate the potential for accidents and damage to the structures.

ALTERNATIVE DEVELOPMENT CRITERIA

ENGINEERING CRITERIA

Development of any design alternatives will be in accordance with WSDOT and FHWA design standards. A 70 MPH design speed will be used instead of the desirable 80 MPH along the east shore of Lake Keechelus due to the mountainous terrain and the topographic limitations. An 80 MPH design speed will be used after Lake Keechelus to the top of Easton Hill.

The alternatives would improve safety through straightening horizontal curves and flattening vertical curves, which will increase stopping sight distances to meet design standards.

Ditch sections will be developed to accommodate snow storage and highway runoff requirements.

No Build (no action) Alternatives will be developed and evaluated in accordance with the Highway Preservation Program P. The objective of the P program is summarized as:

> *"Periodic resurfacing to keep the driving surface smooth and safe, and to prevent failure of the underlying sub-structure. Resurface at the point of lowest lifecycle cost, so that pavement life is not wasted and avoid additional repair costs."*

Because of the ever increasing traffic volume and the importance of highway commerce to the economy of the state, all alternatives will be evaluated in order to eliminate or minimize closures from avalanches.

ENVIRONMENTAL CRITERIA

The environmental elements identified below and in the scoping matrix for this project will be analyzed consistently for each design alternative, and if affected, incorporated into the project EIS. Because the purpose and need of this project is intended to substantially improve travel over Snoqualmie Pass, environmental consideration must follow the most reasonable and prudent path possible. The following environmental reports and processes will be developed in accordance with current and applicable federal, state, tribal and local laws:

- Fish: Evaluate fish habitat and use, analyze impacts and potential mitigation.
- Wildlife/Habitat/ Connectivity: Evaluate wildlife habitat and use, analyze impacts and potential mitigation.
- Wetlands: Delineate/evaluate wetlands, analyze impacts and potential mitigation.
- Hydraulics/Hydrology/Flood Plain: Evaluate surface water hydraulics and hydrology, analyze impacts and potential mitigation.
- Water quality: Evaluate surface water quality (including contaminant analysis, baseline, TMDL's, etc. if necessary), analyze impacts and potential mitigation.
- Hazardous Materials: Evaluate contaminants in soil and groundwater (if necessary), analyze impacts and potential mitigation.
- Cultural Resources/Archeology/4(f): Locate and evaluated unrecorded historic properties within the area of potential effect. Evaluate affected historic properties. Initiate and maintain agency, tribal, and State Historic Preservation Office (SHPO) coordination.
- Air quality: Evaluate air quality, analyze impacts and potential mitigation.
- Noise: Evaluate noise, analyze impacts and potential mitigation according to FHWA standards.
- Visual/esthetics: Evaluate visual environment, analyze impacts and potential mitigation.

- Socioeconomic Issues: Evaluate traffic volume/safety, shipping, recreation/4(f), environmental justice, emergency services, and other aspects of local and regional economies; analyze impacts and potential mitigation.

PRELIMINARY ALTERNATIVES

SUMMARY

Topography and environmental issues are considerably different west of Stampede Pass Interchange than they are to the east of the interchange. For this reason the preliminary alternatives were split into the west section and the east section (see appendix A).

The west section refers to the section of SR 90 from Hyak (MP 55.2) to the vicinity of MP 62.7, just west of the Stampede Pass Interchange. This section has three different alternatives; the common route alternative which follows the existing route of SR 90, the split route alternative which puts three lanes on each side of Lake Keechelus, and the no build alternative which maintains the existing roadway.

The east section refers to the section from MP 62.7 to the top of Easton Hill (MP 67.4) which includes Stampede Pass and Cabin Creek Interchanges. This section has two different alternatives; the common route alternative which follows the existing route of SR 90, and the no build alternative which maintains the existing roadway.

PRELIMINARY ALTERNATIVES TO BE EVALUATED

West Section Alternatives

The Common Route Alternative

This alternative utilizes the existing corridor and consists of the following features:

- Construction of six new PCC pavement lanes to design standards.
- Construction of new structures to eliminate road closures due to avalanches.
- Widening of the existing westbound bridge at Gold Creek, and the replacement of the eastbound bridge.
- Construction of new bridges both eastbound and westbound at Rocky Run Creek.
- Stabilization of rock slopes.

In the vicinity of the existing snowshed and slide curve areas (MP 57.5 to MP59.2) there are three design options I, II, and III to be considered. These options were developed to deal with avalanche closures.

Option I
Construct a new snowshed to cover all traffic lanes and build snow retention structures in the avalanche starting zones.

Option II
The roadway will be shifted into Lake Keechelus adjacent to the avalanche paths using retaining walls and a causeway (raised structure built on piers). The causeway will allow the avalanches to pass under the structure.

Option III
Utilizes a causeway adjacent to the avalanche paths and a tunnel through the hillside at slide curve.

The Split Route Alternative
This alternative consists of major improvements to the westbound roadway generally along the existing route and constructing a new eastbound roadway along the west shore of Lake Keechelus.

Eastbound Roadway
The new eastbound lanes would begin directly east of the Hyak interchange and follow, in part, the abandoned Chicago, Milwaukee, St. Paul, and Pacific Railroad which is now known as the John Wayne Trail. The new lanes would follow the trail alignment to the south end of Lake Keechelus. At the end of the lake the route would turn east and run south of Lake Keechelus Dam before crossing the Yakima River and through the Crystal Springs Campground, before rejoining the new SR 90 alignment west of the Stampede Interchange. The new lanes would feature construction of:

- Three new PCC pavement lanes to design standards.
- Structures to eliminate closures from avalanches.
- New bridges at:
  - Hyak
  - John Wayne Trail Crossing
  - Boat Ramp Access Road
  - Keechelus Dam Access Road
  - Yakima River
- Box culverts at:
  - Mill Creek
  - Cold Creek
  - Roaring Creek
  - John Wayne Trail Crossing
  - Meadow Creek

In the middle of this new route (in the vicinity of the old railroad snowshed) there is a steep rock slope with four avalanche paths. Within this section there are three design options A, B, and C to be considered. These options were developed to deal with avalanche closures.

Option A
A snowshed will be constructed over the roadway in the vicinity of two avalanche paths. The other two avalanche paths will be mitigated by snow deflection dams and modified ditch sections. Approximately 1,100 meters of the John Wayne Trail will be relocated on retaining walls between the lake shore and the elevated roadway.

Option B
The roadway will be constructed on a causeway (raised structure built on piers). At several locations, the causeway crosses over the John Wayne Trail, which will remain at its current location.

Option C
Involves tunneling through the rock hillside. The west approach to the tunnel consists of a causeway which connects to a show shed portal. This portal leads to the entrance of the rock tunnel. Under this option the John Wayne Trail will not need to be relocated in this section.

Westbound Roadway
The new westbound roadway will follow the existing route of SR 90 from the top of Easton Hill, around the east shore of Lake Keechelus to Hyak, The new lanes would feature:

- Construction of three new PCC pavement lanes to design standards.
- Construction of new structures to eliminate road closures due to avalanches.
- Widening of the existing westbound bridge at Gold Creek.
- Construction of new westbound bridge at Rocky Run Creek.
- Stabilization of rock slopes.

In the vicinity of the existing snowshed and slide curve areas there are three design options D, E, and F to be considered. These options were developed to deal with avalanche closures except option F which would also address substandard alignment.

Option D
A new snowshed will be reconstructed over all three lanes and construction of snow retention structures will be constructed in the avalanche starting zones.

Option E
The westbound roadway will be constructed on retaining walls and a causeway in Lake Keechelus.

Option F
A new snowshed will be constructed in the vicinity of the existing snowshed with snow retention structures will be constructed in the avalanche starting zones. At slide curve, a tunnel will be constructed through the hillside.

No Build (No Action) Alternative
Under this alternative, the capacity and safety improvements included in the build alternatives would not be built. This alternative includes only preservation projects and maintenance activities that maintain continued operation of the existing highway system.

East Section Alternatives

The Common Route Alternative
Consists of improvements to the eastbound and westbound roadway generally along the existing route. The new lanes would feature:

- Construction of six new PCC pavement lanes to design standards.
- Stabilization of rock slopes.
- Reconstruction of the existing truck climbing lane.
- Construction of a new undercrossing at Stampede Pass Interchange.
- Construction of a new undercrossing at Cabin Creek Interchange.

No Build (No Action) Alternative
Under this alternative, the capacity and safety improvements include in the build alternatives would not be built. This alternative includes only preservation projects and maintenance activities that maintain continued operation of the existing highway system.

PRELIMINARY ALTERNATIVES REJECTED

SUMMARY
The following alternatives were studied and are no longer considered to meet the purpose and need of the project:

- A new route alternative located east of SR 90 on Rampart Ridge.
- Multi-modal alternatives to move people or freight by other forms of transportation.

New Route Alternative

The new route alternative consisted of developing a route beginning approximately one mile west of Hyak Interchange and proceeding in a easterly direction up Gold Creek Valley. From there the alignment turned south along the west slope of Rampart Ridge to Resort Creek Pond and paralleled the existing alignment to connect back into SR 90 in the vicinity of the Stampede Pass Interchange.

This alternative has been eliminated from further study because of the following considerations:

- Wetland Impacts
- Creation of another mountain pass
- Right of way acquisition costs

Multi-modal Options

Multi -modal options have been previously studied for passenger rail as well as freight rail on a statewide basis. Those studies indicate that these options have low potential or are not supported by current public policy. An East - West rail corridor study was proposed by WSDOT, but remains unfunded due to legislation recently passed by the voters.

<u>High Speed Ground Transportation System</u>

In the Spring of 1991, the Washington State Legislature enacted Chapter 231, Laws of 1991 (SHB 1425) which directed that a comprehensive assessment be made of the feasibility of developing a high speed ground transportation system in the State of Washington.

The study reviewed six possible corridors for the High Speed Ground Transportation (HSGT) system. Three of the routes would go over Snoqualmie Pass. Two of the three corridors were rated as low while the third was rated low to moderate. The low ratings indicated that the corridors have limited potential and no further study was recommended.

<u>Freight Mobility Advisory Committee</u>

The Freight Mobility Advisory Committee which is appointed by the chairman of the Legislative Transportation Committee developed a report in the Spring of 1997. The findings and recommendations of the report were to set forth a policy and program frame work for important investment decisions affecting freight transportation across all modes in the State of Washington.

Some of the findings of the report are listed below:

- "Strategic corridors often have distinctive segments with associated checkpoints which typically occur at points of interaction. At intermodal facilities where freight is transferred from one mode of transport to another, connections- between roads, ports, rail yards and truck terminal - are often located on congested city streets shared with local and commuter traffic. Access to these intermodal facilities is increasingly blocked or delayed as a result of congestion, inadequate street and roadway systems, shared use of highway and rail capacity, and at-grade crossings of roads with rail lines."

- "Abandonment's of branchline railroads in Washington have diverted freight to trucks and increased the level of truck traffic on county roads, city streets and state highways causing rapid deterioration of the roadway condition."

- "State programs for preserving rail service are under-funded and unable to meet all identified needs."

- "Federal, state and local regulations of wetlands and sensitive habitats often constrain the maintenance and expansion of the existing transportation systems including roads, railroads and port terminals."

- "WSDOT is committed to making sure that issues of capacity that are the result of rail passenger service are the state's responsibility, while issues that are freight driven are the railroad's responsibility."

Current public policy does not encourage and facilitate freight mobility investments. The study recommended funding of additional studies to attain freight mobility goals:

- Adopt a state freight mobility policy.

- Establish a dedicated funding source to fund strategic freight mobility investments.

- Address regulation and permits that inhibit freight movement.

- Develop partnerships to complement private and local investments in the freight transportation system.

In addition to the studies already completed, multi-modal alternatives are no longer considered because; of the abandonment of branchline railroads, and the responsibility of freight mobility is by private railroads. The alternatives do not adequately address the Purpose and Need for the project.

Work to Date

Engineering Studies

Route Evaluation Study

During the spring of 1996, WSDOT conducted a Route Evaluation of SR 90 from Hyak to mile post 111 just outside of Ellensburg at the junction of SR 90 and SR 82. The study explored adding additional lanes which would expand the existing facility to six lanes.

Value Engineering Study

Value Engineering (VE) is a systematic process designed to focus on the major issues of a complex project. It uses a multi-discipline team to develop recommendations for the important decisions that must be made.

In the fall of 1997 a VE study was done to develop recommendations for the project corridor. The study made recommendations for programming, funding, designing and environmental documentation required for making decisions necessary to move the project forward through the development process.

Feasibility Study

HDR Engineering Inc. as a consultant for WSDOT prepared a feasibility study in the fall of 1999. The study investigated routing the eastbound lanes around the west shore of Lake Keechelus, from Hyak to the Stampede Pass interchange. The study concluded the following:

- "Rerouting the eastbound lanes of SR 90 to a new corridor along the south west shore of Keechelus Lake, while utilizing the existing reconfigured SR 90 roadway for the westbound lanes, is feasible."

- "Evaluation of applicable local, state, and federal land use plans and policies within the Snoqualmie Pass area of Kittitas County indicates that the proposed eastbound SR 90 alignment is inconsistent with future development plans for the Hyak area."

Interdisciplinary Team

The WSDOT South Central Region (SCR) has formed a Interdisciplinary Team (IDT) which functions as an advisory board to the SCR Administrator. The IDT consists of individuals with expertise in various disciplines and a Project Manager (PM) to perform the administrative responsibilities of the project. The PM and IDT will develop preliminary alternatives for analysis.

After collecting data, and compiling inventories to determine the social, economic and environmental impacts of the project, the PM and IDT will summarize findings and list recommendations for alternatives to be considered in the Draft Environmental Impact Statement (DEIS).

The IDT and PM are preparing for an orientation meeting to begin developing a study plan and public involvement plan.

Public Involvement

Public Meetings

Two public meetings were held in the spring of 1999. One meeting was held in the town of North Bend and the other in Ellensburg. The meeting was held to introduce the project and receive feed-back from the public.

Indian John Rest Area Display's

The Indian John Rest Areas are located east of Cle Elum on SR 90. An informational display was installed at both eastbound and westbound rest areas. The displays contain information about the project and provides brochures with additional information.

Web Site

A project specific web site was set up on the Internet. The address is wsdot.wa.gov/reions/southcentral/I90snoqualmie. The web site contains project information and gives concerned citizens a place to e mail WSDOT with their concerns.

Washington State Fairs

WSDOT had a informational booth at both the Central Washington and Western Washington State Fairs. Information on the SR 90 project and brochures were available to the public as well as an opportunity to be put on a mailing list to receive additional information as it became available.

Partnering Meeting

In October of 1999 a partnering meeting was held in Yakima. Representatives from Federal and State agencies were invited. The meeting was held to introduce the project and receive feed back from the agencies.